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# **General Instructions for Artificial Reforestation of Southern Pine**

## **SPECIES TO PLANT**

Species to plant will depend upon your location. Longleaf and Slash Pines grow naturally in the Coastal Plains, Lower Mississippi Valley and Southern Texas, and should be planted there, Slash being the preferred specie as on most sites it will make a quicker growth and will produce naval stores or merchantable lumber much faster. On very dry, sandy sites Longleaf can be used to good advantage.

Slash is by far the fastest growing and the most generally planted Southern Pine and is planted in the lower Piedmont, and even in the upper Piedmont and north of its range in the Mississippi Valley and Texas and seems to thrive as well as in the coastal sections. However, in the upper Piedmont and mountain sections and in the northern part of the southern pine belt Loblolly and Shortleaf should generally be used, Shortleaf being planted in the mountains and extreme northern part of the belt.

## **TIME OF PLANTING**

Pine seed should generally be planted in the Spring months (late February, March or April) depending on the location. The important point is to get the seed in the ground at a time when they will germinate quickly. In general, the earlier the seeds are planted the better, so they can be well established before the extremes of summer weather start, and so they will have more time to grow a good root system for transplanting the following Spring.

## **METHODS OF PLANTING**

Two different methods may be employed to get an artificial stand of seedlings on a desired site. They are: (a) Plant seed in a nursery bed and transplant to a desired site;

(b) Direct seeding on site where seedlings are desired to grow.

**(a) Raising seedlings in a nursery bed and transplanting to the desired site:**

This is by far the most important and generally practiced method up to the present time and is the surest way of getting a completely stocked stand. The nursery bed should be located in a well drained sand or clay loam that is as free from weeds and grass seed and fungi as is possible and should be close to a water supply. Commercial fertilizer may be applied to the bed to good advantage to insure fast growth.

The soil should be thrown up into a bed which is five or six inches above the surrounding ground with a turning plow or shovel. Then work it into a good condition with a rake or hoe. The bed should be about four feet wide, so it can be reached across to weed. The soil should then be rolled or tramped so as to produce a firm seed bed and then raked so as to roughen the surface so seed will stay in place when they fall.

The seed should be scattered at a rate of approximately 150 to a square foot and the bed should then be re-rolled. Cover the seed approximately to the depth of the thickness of the seed with sand which is as free as possible from weed and grass seeds and fungi infection.

The bed should be mulched with burlap sacking or similar material. It is advisable to have some kind of protection from birds which eat the seed readily. A frame can be made to extend over the bed about six inches above the ground, with sacking being stretched over the top and down the sides. This serves as a protection from birds and also as a mulch. Pine straw or wheat straw can be used as mulch or sacking can be applied directly on the bed, but if used in this way will have to be removed as soon as the seeds start ger-

mination. If the sacking is used on the frame it should be removed as soon as the seedlings have become well established.

The seedlings can be lifted and transplanted to the desired location in the late Fall or following Spring. About 50 seedlings per square foot is a good average yield from a nursery bed.

**(b) Direct Seeding:**

This is the simplest method but will not be likely to produce as even a stand as growing the seedlings in a bed and transplanting, as rodents and birds will get part of the seed, and the weather may be unfavorable after planting, and the seed may lay a long time before germinating and thus reduce the germination capacity. If this method is to be used it would be well to try it out on a comparatively small scale (possibly on an acre or two) until results can be ascertained.

Where the direct seeding method is to be used the spots where seeds are to be planted should be worked in some way, either by disc-harrowing the rows where the seedlings are desired or by preparing the individual spots with a mattock or hoe. About four or five seeds should then be deposited at desired intervals and a little soil kicked over them and pressed firmly down with the foot.

A simple tool devised by the Oregon Department of Forestry has been made for direct seeding, and is also adaptable to this section. If interested a print may be obtained by writing to the Oregon Department of Forestry or directly to us. They have not been manufactured by anyone as yet. (No prior preparation of the soil is necessary if this tool is used.)

In planting seedlings in field or in spacing seed spots a spacing of 6 feet by 6 feet is the standard for forest planting. If naval stores are desired a spacing of 10 by 10 feet

or wider would be advisable. Consult your County Agent as to method of transplanting, or refer to U. S. D. A. Technical Bulletin No. 492.

#### **NUMBER OF SEED TO PLANT**

There are approximately the following number of seeds per pound:

Slash Pine Seed .....	15,000
Longleaf Pine Seed .....	5,000
Loblolly Pine Seed .....	23,000
Shortleaf Pine Seed .....	65,000

An average germination of 75 per cent can be expected. In either planting in nursery bed or direct seedings about three or four times as many seed should be planted as the number of seedlings desired.

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